



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,368	08/27/2003	Yukinobu Momozono	116609	3702

25944 7590 01/10/2007
OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

WANG, JIN CHENG

ART UNIT PAPER NUMBER

2628

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,368	MOMOZONO ET AL.	
	Examiner	Art Unit	
	Jin-Cheng Wang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/2006 has been entered. Claims 1-11 have been canceled. Claim 12 has been amended. Claim 12 is pending in the application.

Response to Arguments

Applicant's arguments filed October 13, 2006 have been fully considered but are moot in view of the new ground(s) of rejection of the amended claim 12 set forth in the present Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 12 recites "the first position" in line 11 of the claim and "the first or second position" in lines 16-17 of the claim. For example, "the first position" in line 11 of the claim is

Art Unit: 2628

independent from “a first position” in the line 7 of the claim. The second position in lines 16-17 of the claim is independent from a second position in line 12 of the claim. This is because the conditions “when” are independently construed and thus the positions are relative to the target character pixel and the pixel constituting the font data set forth respectively for the conditions “when”. Therefore, “the first position” and “the second position” in the context of the claim are not related to “a first position” and “a second position” mentioned earlier in the claim. Clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Toji et al. U.S. Patent Application Publication 2003/0020729 (hereinafter Toji).

Re Claim 12:

Toji teaches a font processor, comprising:

A data acquiring device that acquires font data of bitmap fonts (e.g., Paragraph 0173-0182);

Art Unit: 2628

A subpixel-font generating device that separately analyzes character pixel configuration of the font data using pattern matching to generate subpixel fonts, the subpixel fonts being data in units of subpixels (*e.g., Paragraph 0182*);

Toji teaches the claim limitation of a subpixel font generating device: “when a pixel constituting the font data is located at a first position that, with respect to a first direction in which subpixels are to be aligned, is adjacent to a target pixel, disposes subpixels at the position of the target pixel without shifting the target pixel” (*See the target pixel in Figs. 14(a) and 15 that is located at the center of fifth row receives no shifting*).

Toji teaches the claim limitation “when no pixel constituting the font data is located at the first position and also a pixel constituting the font data is located at a second position that, with respect to a second direction orthogonal to the first direction, is adjacent to the target pixel, disposes subpixels at the position of the target pixel without shifting the target pixel” (*See Fig. 14(a) and 15 wherein the leftmost pixel on the last row meeting the claim limitation of “the target pixel” in this context, but receives no shifting as claimed and or the target pixel in Figs. 14(a)15 that is located at the fourth row which receives no shifting*).

Toji further teaches the claim limitation “when no pixel constituting the font data is located at the second position and also a pixel is located at a third position that is adjacent and diagonal to the target pixel, shifts the target pixel by at least one sub-pixel distance and then disposes sub-pixels at the position of the target pixel, wherein when the third position where the pixel is located is to one side of the target pixel, the target pixel is shifted in one direction, and when the third position where the pixel is located is to another side of the target pixel that is opposite to the one side, the target pixel is shifted in a direction opposite to the one direction

Art Unit: 2628

(e.g., Toji teaches in Fig. 14(a) and 15 shifting the second pixel in the 3rd row rightward by one sub-pixel and shifting the fourth pixel in the 3rd row leftward by one sub-pixel. It is clear the second pixel in the 3rd row and the fourth pixel in the 3rd row meet the claim limitation of “the target pixel” as claimed).

In other words, Toji discloses at Fig. 14(a) and Fig. 15 shifting the target character pixel by at least one subpixel to generate a shifted target character pixel when a character pixel is located diagonal to the target character pixel (e.g., the pixel in the third row and the second column in Fig. 14(a) is shifted rightward by one subpixel when a character pixel is located the in upper-right diagonal to the target character pixel). Toji discloses at Fig. 14(a) and Fig. 15 avoiding a shift in the target character pixel before expanding the target character pixel into subpixel font when no character pixel is located diagonal to the target pixel (e.g., the pixel in the first row and third column of Fig. 14(a) is not shifted when no character pixel is located diagonal to the target pixel). Toji discloses at Fig. 14(a) and Fig. 15 that shifting and no shifting are repeated individually for each character pixel of the font data acquired by the data acquiring device (See also Paragraph 0171-0173 of Toji for the data acquiring device).

Moreover, it is noted that applicant's invention creates more aliasing, rather than reduce aliasing. The claim invention creates aliasing, rather than provide anti-aliasing for the reasons given below.

For the example character in Fig. 14(a) of Toji, applicant's claim invention would have shifted the character pixel in the fourth row and second column rightward because there is a character pixel located in the lower right of the target character pixel. This however, increases

Art Unit: 2628

the aliasing to the character A while Toji successfully reduces aliasing of the character A.

Applicant's claim invention is thus inferior to Toji for this reason.

Toji teaches repeating the analysis individually for each character pixel of the font data acquired by the data acquiring device. Toji discloses no shifting in Fig. 7(a) and shifting in Fig. 7(c) or 7(f). See also Fig. 14(a) and Fig. 15 wherein shifting occurs for a center target pixel in the second row, and no shifting occurs for a center target pixel in the first row, fourth row. No shifting occurs also for the target pixel located in the second position of the fourth row and the fourth position of the fourth row (Fig. 14(a) and 15). Toji discloses in Fig. 25(c) and 25(d) shifting the target pixel rightward a subpixel and no shifting for the target pixel in Fig. 25(c). Toji discloses in Fig. 11(a) shifting the target pixel leftward or rightward by two sub-pixels. Toji also discloses the gradation adjustment for the pixels (See Toji Paragraph 0012-0014)

Toji teaches no shifting in Fig. 7(a) and shifting in Fig. 7(c) or 7(f). See also Fig. 14(a) and Fig. 15 wherein shifting occurs for a center target pixel in the second row leftward or rightward. Toji discloses in Fig. 25(c) and 25(d) shifting the target pixel rightward a subpixel. Toji discloses in Fig. 11(a) shifting the target pixel leftward or rightward by two sub-pixels. Toji also discloses the gradation adjustment for the pixels (See Paragraph 0012-0014).

Conclusion

Art Unit: 2628

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665.

The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcw

A handwritten signature in black ink, appearing to read "Jin-Cheng Wang", written in a cursive style.